

# Controlling Your Azure Costs: Tips, Tricks, and Best Practices

Sarah Lean - @Techielass

Scottish techie



# DATA:Scotland

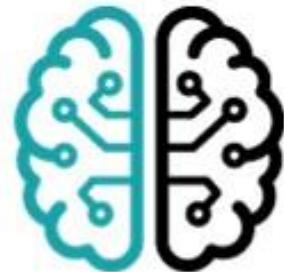
Scotland's Data Community Conference

[datascotland.org](http://datascotland.org)  
@datascotland

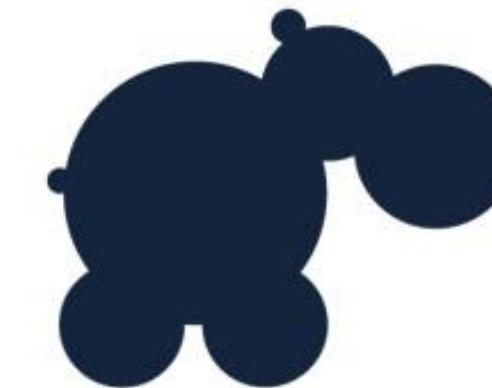
# TIMEXTENDER



**ADVANCING  
ANALYTICS**



**DATA**masterminds



hippo  
data



Tabular Editor



quorum



**Waterstones**  
we're with you

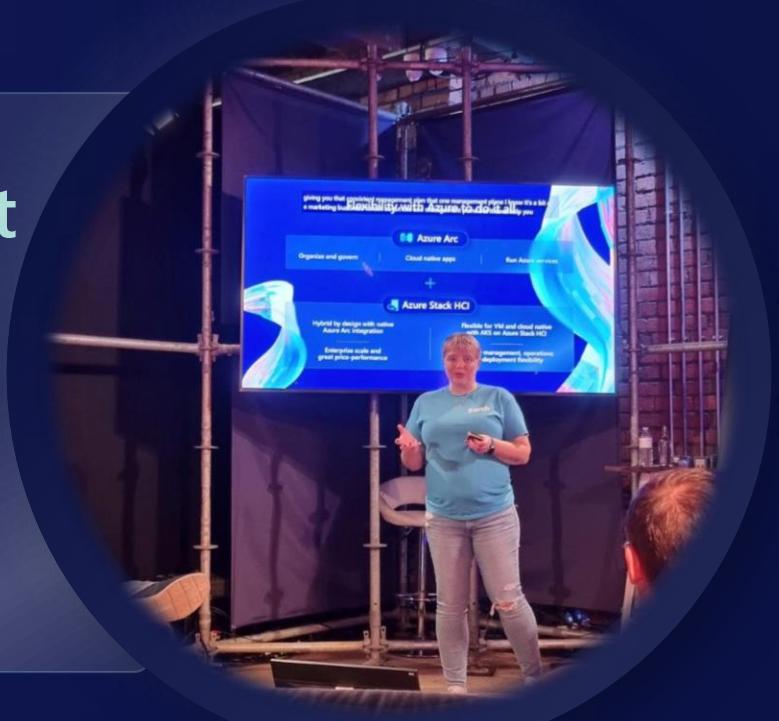


# Sarah Lean

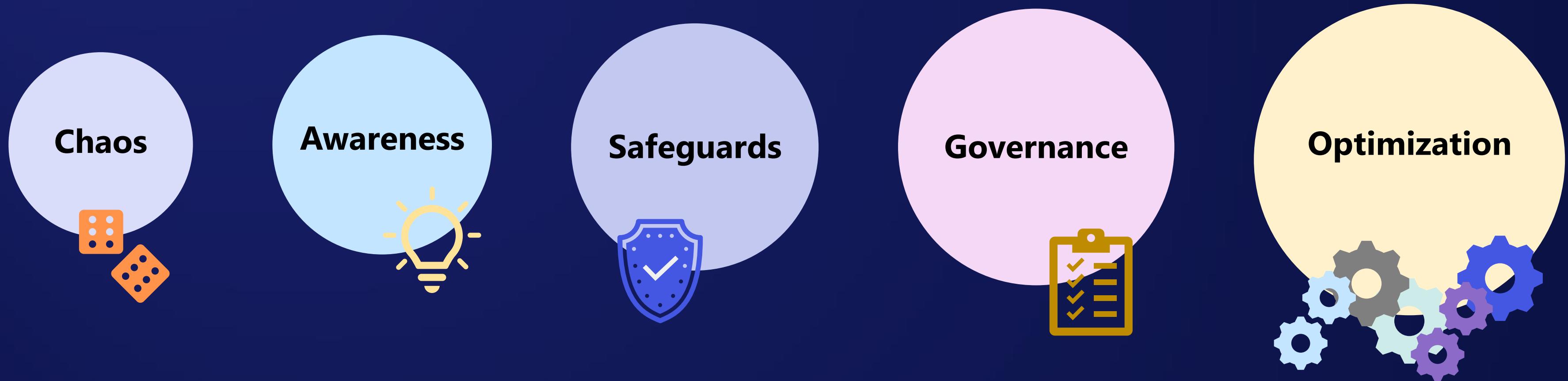
Scottish techie living the dream

@Techielass

- Senior Cloud Solution Architect @ Microsoft
- Founder of the Glasgow Azure User Group
- STEM Ambassador
- 18+ years in IT industry



# Cloud Journey



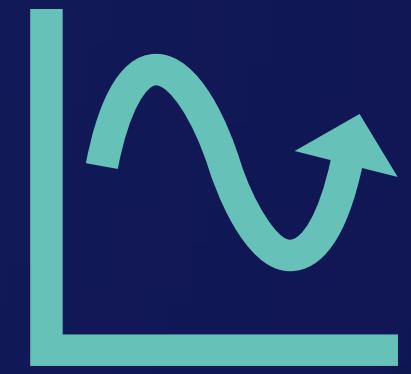
# Optimisation methods



**Discounts**



**Deleting**



**Rightsizing**



**Suspending**

# Optimisation opportunity



Cost



Discounts



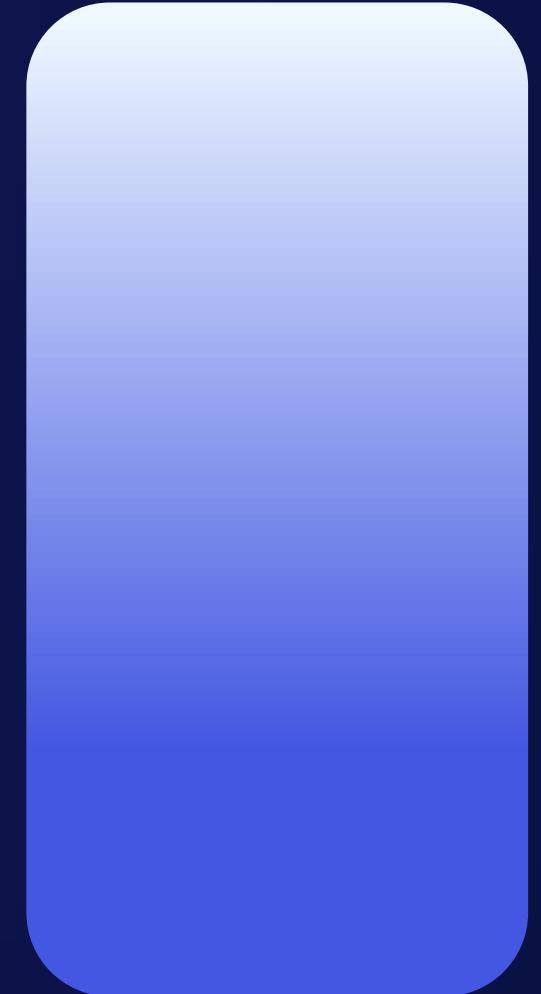
Rightsizing



Suspending



Deleting



Optimised

# Managing and Reporting

# Reporting



Budget planning



Optimisation



Forecasting



Showback and Chargeback



Compliance and Accountability



# Reporting



Azure Cost Management



Cost Optimisation workbook



FinOps Hub



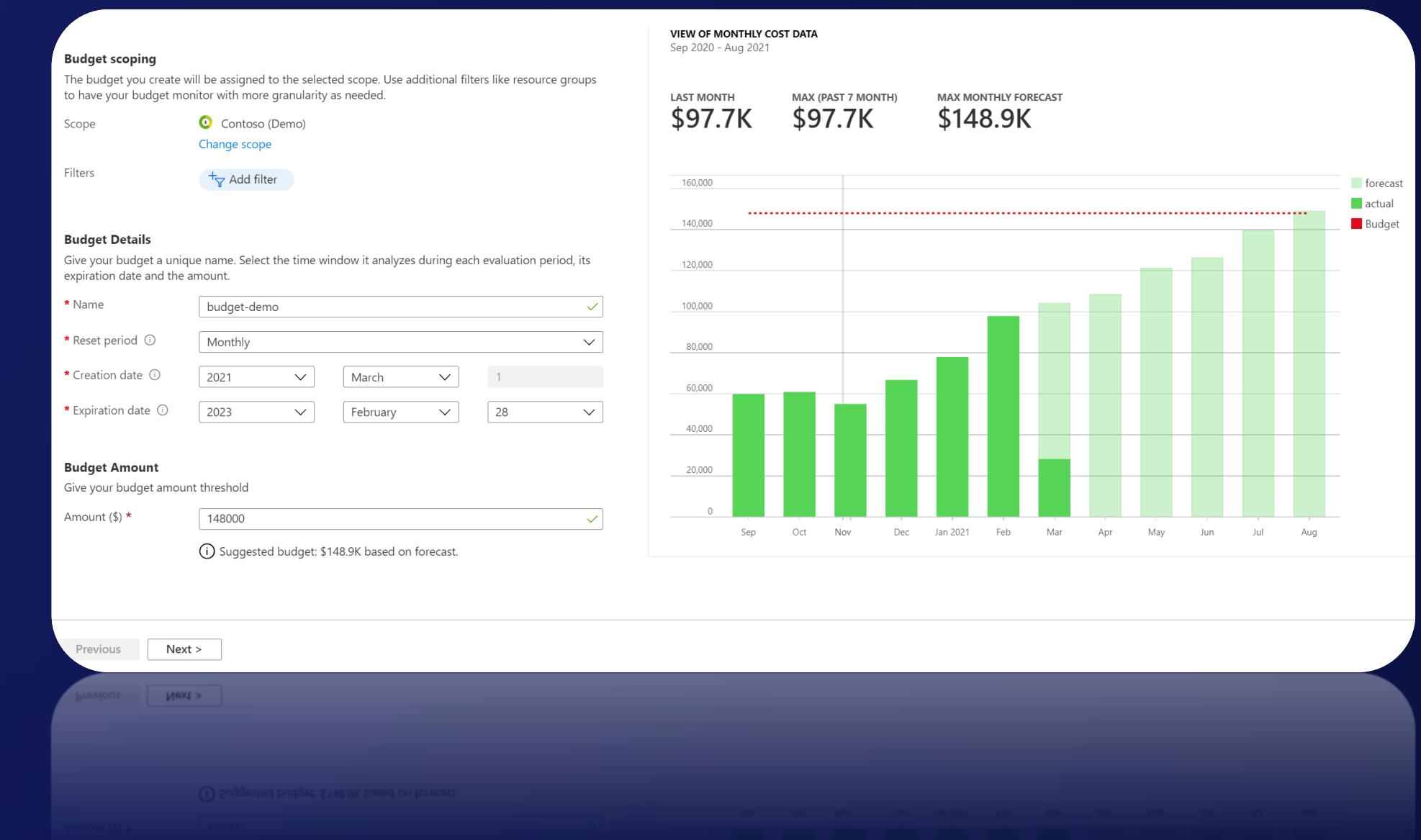
Azure Optimization Engine (AOE)



# Budget Alerts



Notification of forecasted, or actual spend, over a set budget



# Cost Anomaly Alerts



Anomaly detection alerts



Compare against previous usage



Data drive insights

Anomaly detected in Trey Research Corporate subscription



You forwarded this message on 3/14/2022 3:36 PM.

If there are problems with how this message is displayed, click here to view it in a web browser.

Mon 3/14/2022 3:37 PM



An unusual cost increase was detected on March 12, 2022 for the Trey Research Corporate subscription

Azure Cost Management and Billing detected a possible cost anomaly based on daily usage trends between January 15, 2021 and March 12, 2022. Please review changes to determine whether this was expected.

## Subscription summary

Anomaly detected	Yes
Delta	10.12 %

## Resource Groups summary

	Count	Cost change %
New	0	0 %
Existing	28	7.94 %
Removed <sup>1</sup>	0	0 %
Total <sup>2</sup>	28	0 %

<sup>1</sup> "Removed" means there was no cost or usage generated. This may be due to stopped, moved, or deleted resources.

<sup>2</sup> Total includes all resource groups in the subscription.

Resource Group	Count	Cost change %
l6jot	58	0 %
bavomewA	0	0 %
gndtspX	58	0 %
W9H	0	0 %
Conut	58	0 %

# Azure Advisor



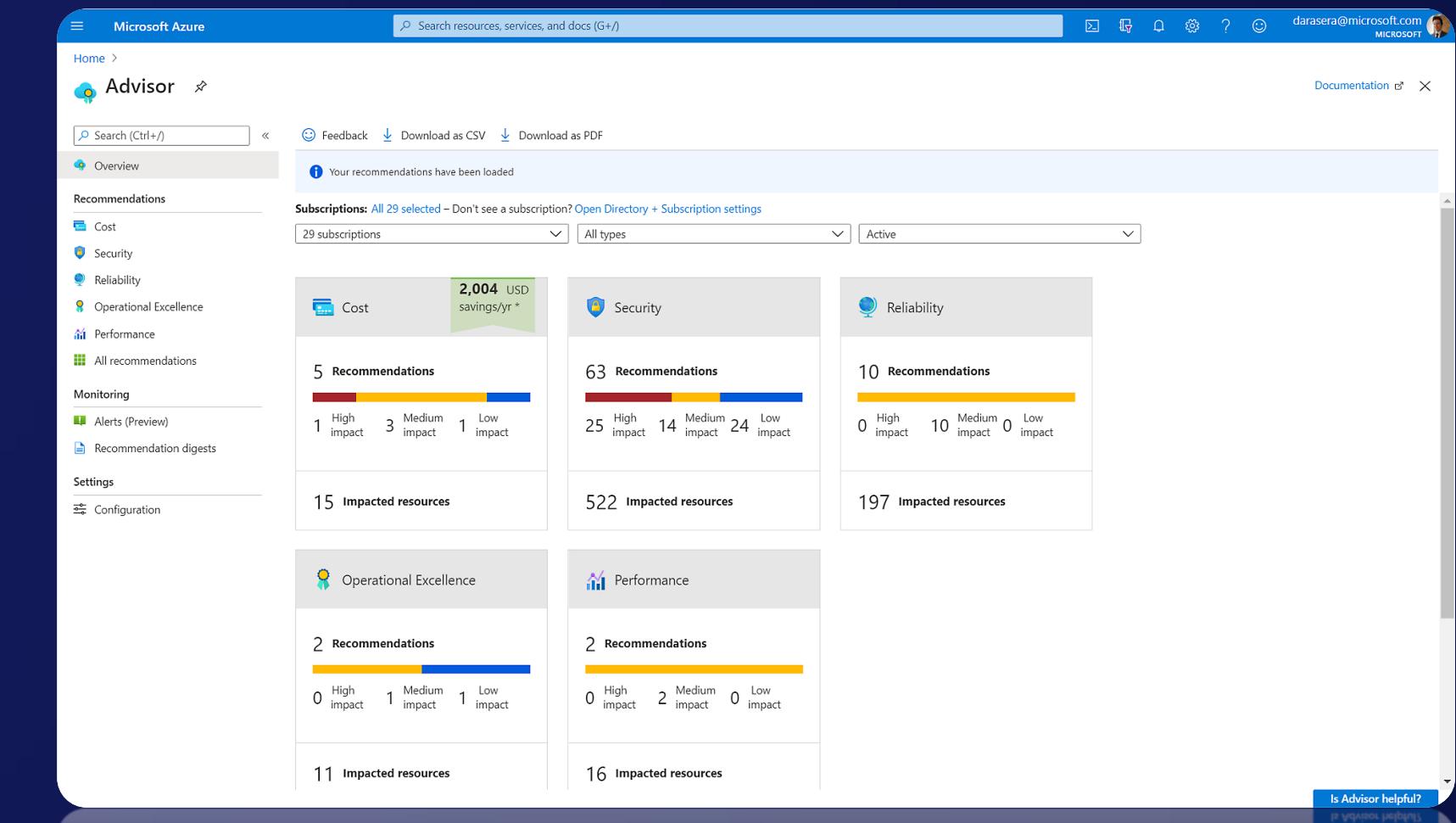
Personalised recommendations



Actionable information



Still needs an element of “human intelligence” applied to the advice



# Permanent workloads

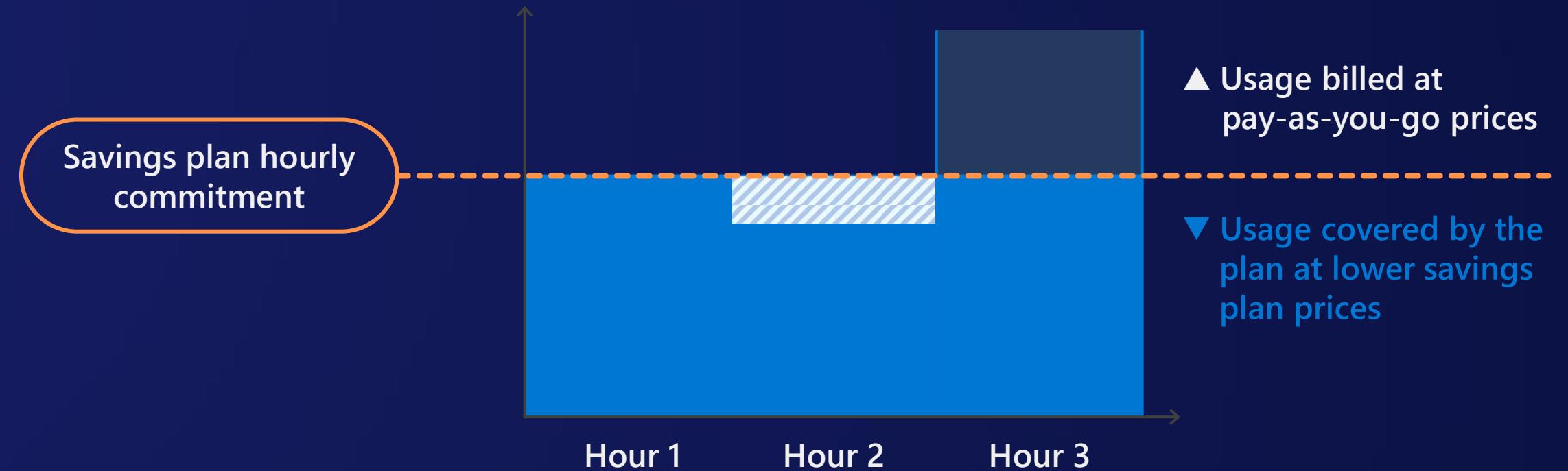
# Reserved Instances

## Over 25 Azure Services Eligible

- Virtual machine
- SQL Database
- Azure Synapse Analytics (data warehousing only)
- Azure Cosmos DB
- Azure Blob Storage
- Azure Dedicated Host
- Azure Database for MySQL
- Azure Database for MariaDB
- Azure Database for PostgreSQL
- Azure Managed Disks
- Azure Databricks
- Azure Cache for Redis
- Azure Data Explorer
- SUSE Linux
- Red Hat Plans
- Azure VMware Solution by CloudSimple
- Azure Red Hat OpenShift
- App Services
- Azure VMware Solution
- Azure Files Reserved Capacity
- Data Factory
- Azure SQL Edge
- Azure Arc-enabled SQL Managed Instance
- Azure Synapse Analytics Pre-Purchase Plan
- Virtual Machine software reservation
- JBoss EAP Integrated Support (App Service)
- Azure Backup

# Azure savings plan for compute

Save money across compute services globally by committing to spend a fixed hourly amount for 1 or 3 years, unlocking lower prices until your reach your hourly commitment.



## Unlock significant cost savings

up to 65%\* compared to pay-as-you-go pricing



## Optimize savings automatically

across select services globally up to the hourly commitment



## Save on your terms

by customizing the plan's term length, scope, billing frequency, and hourly commitment to fit your needs

# Unlock significant cost savings



Get better pricing across a broad set of compute services worldwide

- Save up to 65% compared to pay-as-you-go prices on select compute services
- Achieve greater savings with longer-term plans
- Save even more by combining with other saving options such as Azure Hybrid Benefit

*Note: Pricing is for illustrative purposes only and are not actual*



Example: M32dms v2 in Japan East

Pay-as-you-go  
\$10/hour

Savings plan (1-year)  
\$7/hour

Savings plan (3-year)  
\$3.5/hour

Save  
30%

Save  
65%

# Azure Hybrid Benefit

A licensing offer designed to help you **significantly reduce the costs** of running your workloads in the cloud. By leveraging your existing on-premises Windows Server, SQL Server, and Linux licenses in the cloud and through additional differentiated benefits, you can realize **substantial cost saving**.

# Azure Hybrid Benefit

Windows Server

SQL Server

Linux

Azure Kubernetes Services

Azure Stack HCI



# Azure Hybrid Benefit Tips

- Prioritise where you assign Azure Hybrid Benefit
- Renewing Software Assurance
- Auto shutdown
- Dev/Test Subscriptions



# Variable workloads

# Storage Accounts

	Premium	Hot	Cool	Archive
 PER TB PER MONTH	Low and consistent latency data	Frequently accessed data	Less frequently accessed data	Rarely accessed data
 PER 10K READ OPERATIONS	££££	£££	££	£
 RETRIEVAL TIMES	Immediate (SSD)	Immediate (HDD)	Immediate (HDD)	Hours
USE CASE EXAMPLES	Interactive Transactions Telemetry	Cloud native application data	Server backups	Medical records archive

Choose between online Cool tier and offline Archive tier

No more management or migrations of storage hardware!

Save even more with **Reserved capacity** – Up to 38% savings 100TB and 1PB pre-purchases for 1-3 years

# Managed Disks

	 Ultra	 Premium	 Standard SSD	 Standard HDD	
 PER TB PER MONTH	££££	£££	££	£	<p>Correct performance tier enforcement can achieve improved cost effectiveness, and could align with SLA requirements at a lower tier.</p>
 PER 10K TRANSACTI ONS	Included	Included	££	£	
 Single VM SLA	99.9%	99.9%	99.5%	95.0%	<p>Multi-zonal VMs have separate SLAs for single instance connectivity</p>
 Underlying Technology	NVMe	SSD	SSD	HDD	
USE CASE EXAMPLES	SAP HANA, top-tier databases	I/O intensive workloads	Test and entry-level production workloads	Test & dev machines	

# Dev/Test Environments

## MSDN Subscription

- Every engineer equipped with an MSDN subscription gets monthly Microsoft Azure credits for as long as the subscription is active.
- Engineers can use MSDN credits towards any Microsoft Azure service for **INDIVIDUAL development and testing needs** (no production usage allowed).
- These credits are a great way to get started with Azure in your org as it gives your developers a sandbox to begin working **today**.

## Azure Enterprise Dev/Test Offer

- Enterprise Agreement** customers now have a new way to run dev/test workloads on Azure:
- Special discounted rates on Windows Virtual Machines, Cloud Services, HDInsight, and Websites
  - No additional charge for the MSDN software that runs on top of Windows Server such as SQL Server
  - No separate payment—just use the funds already on your EA

# Automated builds



# Summary

# Things to remember

-  Optmisation methods are stackable
-  Analyse and manage your costs
-  Use the appropriate SKU for your workload
-  Ensure responsibility for cost is taken



Feedback:

<https://aka.ms/eventfeedback>

# Discussion

# Resources

More information:

<https://aka.ms/scotlandsavings>



Keep the conversation going!

**Sarah Lean**  
**@Techielass**

